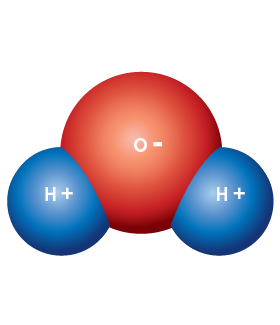
Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class \_\_\_\_\_\_\_\_\_

**Chapter 2-2: Properties of Water**

**Daily Objectives - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**- \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

** - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**Water Molecules -** \_\_\_\_\_\_\_\_\_\_\_\_ is one of the few compounds that is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ over most of Earth’s surface.

- Like other molecules, \_\_\_\_\_\_\_\_\_\_\_\_\_ ( \_\_\_\_\_\_ ) is \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

- The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on its 10 protons \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on its 10 electrons.

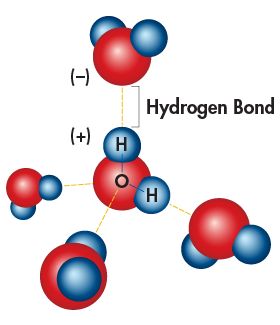
**Polarity -** Because of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ of its chemical bonds, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ is on one end of the molecule and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_ are on the other.

- With \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in its nucleus, an oxygen atom has a \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ attraction for \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ than does a hydrogen atom with its \_\_\_\_\_\_\_\_\_\_\_ proton.

- There is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of finding the \_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ in water close to its oxygen atom than near its hydrogen atoms.

- As a result, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of the molecule has a slight \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_ end of the molecule has a slight \_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_.

- A molecule in which the charges are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is said to be “\_\_\_\_\_\_\_\_\_\_\_\_,” because the molecule is like a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Hydrogen Bonding** - Because of their \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ charges, polar molecules such as water can \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**-** The attraction between a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of one water molecule and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ on another is known as a **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.

- Water is able to form \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which account for many of its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

- Hydrogen bonds are not as strong as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_ bonds, and they can form in other compounds besides water.

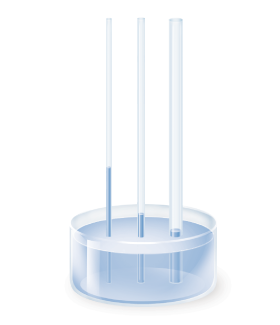
**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -** An \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between molecules of the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

- Because a \_\_\_\_\_\_\_\_\_\_\_ water molecule may be involved in as many as \_\_\_\_\_\_\_ hydrogen bonds at the same time, water is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

- Cohesion causes water molecules to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, which is why drops of water \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

- Cohesion also produces \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, explaining why some insects and spiders can walk on a pond’s surface.

**Adhesion**  - An attraction between molecules of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

- The surface of water in a graduated cylinder dips slightly in the center, forming a curve called a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, because the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ between water molecules and glass molecules is \_\_\_\_\_\_\_\_\_\_\_\_ than the cohesion between water molecules.

- Causes \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ against the force of \_\_\_\_\_\_\_\_\_\_\_. This is known as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Heat Capacity**  - Water’s heat capacity, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ required to increase its temperature, is \_\_\_\_\_\_\_\_ due to its \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

- Large bodies of water, such as \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_, can absorb large \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ with only small changes in \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. This protects organisms living within from drastic changes in temperature.

**Mixtures -** A \_\_\_\_\_\_\_\_\_\_\_\_\_\_ is a material composed of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ elements or compounds that are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ mixed together but not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ combined.

**-** Two types of mixtures that can be made with water are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Solutions -** All the components of a solution are \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ throughout the solution.

**Solute -** the substance \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Solvent** - the substance in which \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.

**-** Water easily dissolves \_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_\_, and even other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

- When a given amount of water has dissolved \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, the solution is said to be \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Suspensions** - Mixtures of water and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ materials are **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**.

**Acids & Bases -** Water molecules sometimes split apart to form a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_) and a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (\_\_\_\_\_\_\_\_).

**pH scale -** Measures the concentration of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in a solution.

- The scale ranges from \_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_.

- Pure water has a pH of \_\_\_\_\_\_\_\_.

**Acid**  - Solutions with a pH below 7 are called \_\_\_\_\_\_\_\_\_\_\_\_\_ because they have more   
\_\_\_\_\_\_\_\_ ions than \_\_\_\_\_\_\_\_\_ ions.

- The lower the pH, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the acidity.

**Base** - Solutions with a pH above 7 are called \_\_\_\_\_\_\_\_\_\_\_\_\_ because they have more \_\_\_\_\_\_\_\_ ions than H+ ions.

- The higher the pH, the \_\_\_\_\_\_\_\_\_\_\_ basic the solution.

**Buffers**  - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ or \_\_\_\_\_\_\_\_\_\_ that can react with strong acids or bases to prevent \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in pH.